



U I C CODE

Leaflet to be classified in Volumes :

V - TRANSPORT STOCK

VIII - TECHNICAL SPECIFICATIONS

842-3



2nd edition, 1-7-79

UDC : 006.44 : 629.4.021.002.2

**TECHNICAL SPECIFICATION
FOR THE SURFACE PREPARATION OF
METALLIC AND NON-METALLIC MATERIALS
USED IN THE CONSTRUCTION OF RAILWAY
VEHICLES AND CONTAINERS**

0

REVISIONS

AVA Documents
Document Sharing Hub

1 - PURPOSE

1-1 - Nature of the work

This specification defines the work involved in the surface preparation of metallic and non-metallic materials used in the construction of railway vehicles and containers.

It applies to the component parts and sub-assemblies, also to vehicles and containers ready built.

1-2 - Classification

The work of surface preparation consists of the following :

- preparation of steel and cast iron surfaces,
- preparation of stainless steel surfaces,
- preparation of light alloy surfaces,
- preparation of surfaces of timber and assimilated materials,
- preparation of surfaces of plastic materials,
- treatment of the surfaces of components already provided with a coat of anti-corrosion priming paint and of components supplied by sub-contractors.

1-3 - Reference documents

Reference is made to the following documents in this specification:

UIC Leaflets 842-4 : Protection against corrosion and painting of wagons and containers,

842-5 : Protection against corrosion and painting of coaches and tractive units,

842-6 : Quality inspection of railway vehicle paint systems.

2 - SURFACE PREPARATION WORK

2 - 1 - Preparation of steel and cast iron surfaces

Before painting, loose or adherent rust, scale and mill scale must be removed from the surfaces of steel or cast iron components by a mechanical cleaning process.

Plates delivered in the cleaned condition must also undergo this treatment in order to facilitate adhesion of the anti-corrosion priming paint.

2.1 1 - Mechanical cleaning by abrasive projection (*blast cleaning*)

Before cleaning, surfaces coated with oil or grease must be treated with a suitable solvent to avoid polluting the abrasive and transferring oil or grease to surfaces otherwise free from them.

The technical characteristics of the mechanical cleaning (blast cleaning by ordinary compressed air jet, vacuum blasting, centrifugal projection) must enable a degree of roughness to be obtained where the total range of unevenness is less than 40 microns so that the anti-

corrosion protection coat covers the profiles of the cleaned surface continuously (1).

Since the mechanical cleaning procedure most utilised is shot peening, this degree of roughness can normally be obtained with abrasives with the characteristics shown in the following table :

	<i>Nature of the shot or grit</i>	<i>Grain size</i>	<i>Observations</i>
1	Angular grit : a) chilled cast iron grit b) treated steel grit c) clipped wire	0.4 - 1mm	Particularly suitable for thick layers of oxide
2	Round shot : Shot made up of scrap steel	0.5 - 1.5mm	
3	Mixture of shot 1a and 2		Particularly suitable for thin plates

(1) The surface roughness $R_t = 40$ microns corresponds roughly to $R_a = 12$ microns (N 18 degree), i.e. to Rugotest N 10 + AS degrees for round shot and N10 + BS for angular shot.